

Claims

1. Method of operating a printing device, which comprises the following steps:

- 5     • printing a calibration print by means of the printing device, the calibration print having a plurality of measuring areas with different colour mixture relationships;
- 10    • spectrophotometric measurement of the measuring areas, producing a colour profile, the spectrophotometric measurement of the measuring areas being carried out at a plurality (N) of measuring times ( $T_n$ ), producing a colour profile which is extended by a description of the behaviour over time and which comprises a plurality of colour profiles each being associated with a measuring time ( $T_n$ ); and
- 15    • setting the colour mixture relationships of the printing device on the basis of the colour profile extended by a description of the behaviour over time.

2. Method according to Claim 1, the measuring times of the plurality (N) of measuring times ( $T_n$ ) being chosen such that the time interval between successive measuring times increases with the time since the calibration print was printed out.

3. Method according to Claim 2, the plurality (N) of measuring times ( $T_n$ ) being chosen such that the time interval between successive measuring times exhibits a logarithmic dependence on the time since the calibration print was printed out.

35 4. Method according to Claim 3, a natural logarithmic function being chosen as the logarithmic dependence.

5. Method according to anyone of the preceding claims, the colour profile extended by a description of the behaviour over time having the colour profiles produced at the individual measuring times ( $T_n$ ) in each case with a time index which is greater the shorter the time since the calibration print was printed out.
10. Method according to anyone of the preceding claims, before the setting of the colour mixture relationships by using the colour profiles associated with the individual measuring times ( $T_n$ ) and belonging to the colour profile extended by a description of the behaviour over time, further colour profiles at times other than those actually measured being determined by extrapolation and/or interpolation.
15. Method according to anyone of the preceding claims, colour mixture relationships of the printing device being set by using the extended colour profile in such a way that, after a specific time period has elapsed, predetermined colour values of the print are obtained.
20. Method according to anyone of the preceding claims, the age of a print being determined by measuring a colour profile of the print and calculating the associated colour value by using the extended colour profile.
25. Method according to anyone of the preceding claims, a colour inkjet printer being chosen as the printing device.
30. Printing device in which colour mixture relationships of the printing device can be set by means of a colour profile, which is produced by spectrophotometric measurement of measuring areas of a calibration print having a plurality of measuring areas with different colour mixture relationships,
- 35.

- 5 • the means for spectrophotometric measurement being designed such that the spectrophotometric measurement of the measuring areas can be carried out at a plurality (N) of measuring times ( $T_n$ ), producing a colour profile which is extended by a description of the behaviour over time and which comprises a plurality of colour profiles each being associated with a measuring time ( $T_n$ ); and
- 10 • wherein said colour mixture relationships of the printing device are adjustable on the basis of the colour profile extended by a description of the behaviour over time.

15 11. Printing device according to Claim 10, the means for spectrophotometric measurement being designed such that the time interval between successive measuring times increases with the time since the calibration print was printed out.

20 12. Printing device according to Claim 11, the means for spectrophotometric measurement being designed such that the time interval between successive measuring times exhibits a logarithmic dependence on the time since the calibration print was printed out.

25 13. Printing device according to Claim 12, the logarithmic dependence being described by a natural logarithmic function.

30 14. Printing device according to anyone of Claims 10 to 13, the printing device being a colour inkjet printer.